

T.E. Electrical VI CBSEGS

Q.P. Code : 13069

26.5.17

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Duration – 3 Hours

Total Marks assigned to the paper- 80

- N.B.:- (1) Question No.1 is compulsory.  
 (2) Attempt any three questions out of remaining five questions.  
 (3) Assume suitable data if necessary and justify the same.

Q1 Solve any four

- A) What are the two principles of light control?  
 B) Explain single catenary and compound catenary construction of overhead equipment system.  
 C) Compare gasoline vehicle and electric vehicle.  
 D) Define refrigeration and air conditioning.  
 E) Draw tree pattern for classification of electric heating methods.  
 F) Explain terms dead weight and adhesive weight.

Q2

- A) Explain how to measure candle power by simply using light source and graduated scale? 10  
 B) What are the laws used for illumination? 10

Q3

- A) Give classification of electric welding and explain butt welding and spot welding in brief. 10  
 B) What are the requirements for traction motor control? Explain open circuit transition and shunt transition in series parallel control method. 10

Q4

- A) A train runs with average speed of 73 kmph. Distance between the stops is 6 km. the train accelerates at 2 kmph/s and retards at 3 kmph/s. Find maximum speed and schedule speed. Duration of stop is 60 sec. assume trapezoidal speed time curve. 10  
 B) What are the types of refrigeration system? Describe vapour absorption system in detail. 10

Q5

- A) A hall 30\*12 meter is to be illuminated with 50 meter candle.  $DF=1.3$  and  $UF=0.5$ . calculate space to height ratio and workout the number of lamps from following table and select wattage lamp for uniform light disposition. 10

Watts	100	200	300	500	1000
lumens	1615	3650	4700	9950	21500

- B) What is feeding post and feeding and sectioning arrangement in traction system? 10

Q6

- A) What are different lighting schemes, explain each one in brief. 10  
 B) What are hybrid electric vehicles? Explain series and parallel hybrid vehicles 10